

PHILIPPINE NATIONAL STANDARD

PNS/BAFPS 26:2006
ICS 43.040.01

**Fresh vegetables – Tomato (*Lycopersicon esculentum* Mill.) –
Specification**



BUREAU OF PRODUCT STANDARDS

Foreword

The formulation of this Philippine National Standard for Tomatoes, **PNS/BAFPS 26:2006** was initially drafted by the Bureau of Agriculture and Fisheries Product Standards (BAFPS) with reference to US Standards for Grades of Tomatoes (1997), Canadian Grades and Standards for Fresh Fruits and Vegetables (1997), Proposed Draft Codex Standards for Tomatoes (Alinorm 04/27/35), Food Terminal Inc. Quality and Grade Specifications for Tomatoes (1981) and CBT Product Grades, Packaging, Storage and Seasonality (1994).

This standard was reviewed by the BAFPS' Technical Committee prior to its presentation in a public consultation in Cagayan de Oro City, the major producer of this commodity. Comments from the stakeholders were carefully evaluated and were inputted accordingly in the final draft.

The Technical Committee created by BAFPS for this purpose was composed of experts from DA-AMAS, DA-NAFC, PHTRC-UPLB, IPB-UPLB and the Vegetables Growers Association.

1 Scope

This standard establishes a system of grading and classifying tomato, *Lycopersicon esculentum* Mill.

2 References

The titles of the standards publications referred to in this standard are listed on the inside back cover.

3 Definitions

For the purpose of this standard the following definitions shall apply:

3.1

similar varietal characteristics

tomatoes are alike as to firmness of flesh and shade of color in a lot

3.2

mature

tomato has reached the stage of development, which will ensure a proper completion of the ripening process

3.3

breakers

when there is a definite break in color from green to tannish yellow, pink or red on not more than 10 % on the surface

3.4

soft

tomato yields readily to slight pressure

3.5

clean

practically free from dirt or other foreign material

3.6

well-developed

shows normal growth

3.7

fairly well-formed

tomato is not more than moderately deformed

3.8

fairly smooth

tomato is not conspicuously rough

3.9

damage

any specific defects or combination of defects, which materially detracts from the appearance, or the edible or marketing quality of the tomato

3.10

reasonably well formed

is not decidedly deformed

3.11

slightly rough

tomato is not decidedly grooved

3.12

serious damage

any specific defects or combination of defects, which seriously detracts from the appearance, or the edible or marketing quality of the tomato

3.13

misshapen

tomato is decidedly deformed

3.15

very serious damage

any specific defects or combination of defects, which very seriously detracts from the appearance, or the edible or marketing quality of the tomato

3.15.1

anthracnose

a disease caused by fungus which appears as small, slightly sunken, water-soaked, circular spots on the surface of the fruit which becomes dark in the center because of the formation of a small, black fruiting bodies of the fungi

3.15.2

bacterial soft rot

the disease starts as a slightly sunken, water-soaked lesion on the fruit. It later enlarges rapidly and soon the whole fruit becomes very soft and watery. The skin is easily broken in the advanced stages and a foul odor usually accompanies the disease

3.15.3

bacterial spot

on the fruit, small, black, raised, circular spots with distinct narrow water-soaked borders appear which later turn brown and become slightly sunken and scabby

3.15.4

fusarium rot

the disease is characterized by water-soaked and slightly sunken lesions. Under favorable condition, white or pink fungal growth appears on the surface of the infected portion

3.15.5

gray mold

a grayish or yellowish green spots which take on a water-soaked appearance

3.15.6

nailhead spot

spots on the fruit are small, circular, slightly sunken, superficial and tan to brown. As the spots enlarge, the centers become grayish-brown and definitely sunken and borders are more distinct which turns dark brown to black in color. Spots are confined only on the outer surface and seldom penetrate the wall of the fruit.

3.15.7

sour rot or watery rot

infected fruits appear pickled with sour and fermented odor and often-times, the skin of the affected tissue ruptures revealing a white, cheesy fungal growth

3.15.8

blossom-end rot

a small water-soaked lesion appears near or around the blossom end of green fruits. This lesion soon enlarges and the affected tissues would dry out, darken and become leathery. Secondary rots occur in the tissue

4 Classification – Tomato shall be classified according to type and size (Refer to Table 1 – Classification of tomato)

5 Grading – Tomato shall be graded according to its type, general appearance, quality and condition

5.1 Grade 1 – Tomatoes which, meet the following requirements:

The basic requirements include that with similar varietal characteristics, mature, not overripe or soft, clean, well developed, fairly well-formed and fairly smooth. It is free from decay, freezing injury and sunscald, and is not damaged by any other cause.

5.2 Grade 2 – Tomatoes which, meet the following requirements:

The basic requirements include that with similar varietal characteristics, mature, not overripe or soft, clean, well-developed, reasonably well-formed and not more than slightly rough. It is free from decay, freezing injury, sunscald and is not seriously damaged by any other cause.

5.3 Combination – Consists of Grade 1 and Grade 2 tomatoes. Provided, that at least 60 percent, by count, they meet the requirements of Grade 1.

5.4 Grade 3 – Tomatoes which, meet the following requirements:

The basic requirements include that with similar varietal characteristics, mature, not overripe or soft, clean, well-developed and may be misshapen. It is free from decay, freezing injury, not seriously damaged by sunscald, and is not very seriously damaged by any other cause.

6 Tolerance

In order to allow variations incident to proper grading and handling in each of the foregoing grades, the following tolerances, by count, are provided as specified:

6.1 Grade 1

Five percent by number or weight of tomatoes not satisfying the requirements of the class.

6.2 Grade 2

Ten percent by number or weight of tomatoes not satisfying the requirements of the class.

6.3 Combination

Ten percent by number or weight of tomatoes not satisfying the requirements of neither class.

7 Sampling

Sampling method to be used for ascertaining conformance to the requirements of this specification shall be in accordance with PNS/ISO 874.

7 Packing

Tomato shall be packed to protect the product from normal hazards of transporting and handling.

8 Marking and labeling

8.1 Each container shall be legibly labeled with the following information:

8.1.1 Name of the product;

8.1.2 Grade, Type and Size classification;

8.1.3 Net weight in kilograms;

8.1.4 Brand name;

8.1.5 Name of producer; and

8.1.6 The words "Product of the Philippines".

9 Pesticide residue

Tomato shall comply with those maximum residue levels established by the Codex Alimentarius Commission for this commodity.

10 Hygiene

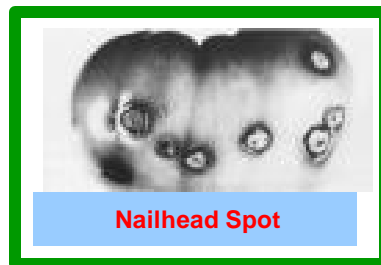
It is recommended that the produce covered by the provisions of this standard be prepared and handled in accordance with the appropriate sections of the Recommended International Code of Practice – General Principles of Food Hygiene (CAC/RCP 1 – 1969, Rev. 3 – 1997, Amd. (1999)), and other relevant Codex texts such as Codes of Hygiene practice and Codes of Practice.

Annex A

Table 1 – Classification of tomato

Classification size/type	Diameter (cm)				
	Table			Cherry	Beef
	Round	Oblong	Ribbed		
Small	3.5- 4.0	3.0- 3.5	3.5- 4.0	2.0-2.9	5.7-6.7
Medium	4.1-4.7	3.6-4.0	4.1-4.7	3.0-3.4	6.8-8.2
Large	4.8-5.7	4.1-4.7	4.8-5.7	3.5-3.9	8.3-10.2
Jumbo	5.7-6.7	4.8-5.7	5.7-6.7		10.3-12.2

Annex B



Tomato

References

PNS/BAFPS 26:2006

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the references document (including any amendments) applies.

CAC Vol. 2 (1993) –Pesticide Residue in Foods

CAC/RCP 1 – 1969, Rev. 3 – 1997, Amd. (1999) - Recommended International Code of Practice General Principles of Food Hygiene

CAC/UN/ECE Standards for Fresh Fruits and Vegetables (2002)

Canadian Grades and Standards for Fresh Fruits and Vegetables (1997)

PNS/ISO 874-Sampling and Methods of Analysis

Postharvest Diseases of Tomatoes. Techguide Series No. 25 by Estrada A. and Ilag, L. (1988)

US Standards for Grades of Tomatoes (Revised 1997)

CBT Product Grades, Packaging, Storage and Seasonality (1994)

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The use of the PS Certification Mark is governed by the provisions of Department Administrative Order No. 01 series of 1997 – Revised Rules and Regulations Concerning the Philippine Standard (PS) Quality and / or Safety Certification Mark Scheme by the Bureau of Product Standards. This mark on a product/container is an assurance by the manufacturer/producer that the product conforms with the requirements of a Philippine standard. Details of conditions under which a license to use the PS Certification Mark may be granted can be obtained from the Bureau of Product Standards, Department of Trade and Industry, 361 Sen. Gil J. Puyat Avenue, Makati City.



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